

## REMARKS

This Amendment is fully responsive to the non-final Office Action dated January 21, 2011, issued in connection with the above-identified application. Claims 1-13 are pending in the present application. With this Amendment, claims 1, 7-9 and 12 are amended. No new matter has been introduced by the amendments made to the claims. Favorable reconsideration is respectfully requested.

In the Office Action, claims 1, 5, 6, 8 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Naruse (U.S. Publication No. 2002/0183026, hereafter “Naruse”), Markman (U.S. Publication No. 2003/0122966, hereafter “Markman”) and Zhu (U.S. Publication No. 2008/0183767, hereafter “Zhu”), and further in view of Takamura (U.S. Publication No. 2004/0045027, hereafter “Takamura”).

The Applicants have amended independent claims 1 and 8 to more clearly distinguish the present invention from the cited prior art. Independent claim 1 (as amended) recites *inter alia* the following features:

“[a] content reproduction device that performs streaming reproduction of a content, the device comprising:

a plurality of communication units configured to receive, in parallel, each of pieces of segmented data of a content transmitted from a content transmission device over a communication path, a part of the pieces of the segmented data of the content being received by one of said plurality of communication units and another part of the pieces of the segmented data of the content being received by another one of said plurality of communication units...,

wherein the content transmission device transmits each of the pieces of segmented data of the content to be received, in parallel, by said plurality of communication units at a transmission speed adjusted based on the first request signal, and said plurality of communication units receive, in parallel, each of the pieces of segmented data of the content transmitted from the content transmission device at the transmission speed adjusted by the content transmission device based on the first request signal.” (Emphasis added).

The features emphasized above in independent claim 1 are similarly recited in independent claim 8. That is, independent claim 8 is a method claim that includes steps directed to the features emphasized above in independent claim 1. Additionally, the features emphasized above in independent claim 1 (and similarly recited in independent claim 8) are fully supported

by the Applicants' disclosure (see e.g., Fig. 19).

The present invention (as recited in independent claim 1) is distinguishable from the cited prior art in that the communication units receive, in parallel, each of the pieces of segmented data of content transmitted from a content transmission device over a communication path. That is, the content transmission device transmits each of the pieces of segmented data of the content to be received, in parallel, by the communication units at a transmission speed adjusted based on a request signal so that the communication units receive, in parallel, each of the pieces of segmented data of the content transmitted from the content transmission device at the adjusted transmission speed. The features discussed above with reference to independent claim 1 are similarly recited in independent claim 8.

The content reproduction device and method of the present invention (as recited respectively in independent claims 1 and 8) is able to achieve streaming reproduction of the content even when the maximum transmission speed of one of the communication units is below the rate of the streaming content.

In the Office Action, the Examiner relies on the combination of Naruse, Markman, Zhu and Takamura for disclosing or suggesting all the features recited in independent claims 1 and 8. In particular, with the regard to the features emphasized above in independent claim 1 (and similarly recited in independent claim 8), the Examiner relies on ¶[0052]-¶[0055] of Naruse; ¶[0025], ¶[0041], ¶[0048] and ¶[0085] of Markman; ¶[0021], ¶[0022] and ¶[0041] of Zhu; and ¶[0038], ¶[0041] and ¶[0087] of Takamura.

However, independent claim 1 recites:

*“wherein the content transmission device transmits each of the pieces of segmented data of the content to be received, in parallel, by said plurality of communication units at a transmission speed adjusted based on the first request signal, and said plurality of communication units receive, in parallel, each of the pieces of segmented data of the content transmitted from the content transmission device at the transmission speed adjusted by the content transmission device based on the first request signal.”* The features discussed above with reference to independent claim 1 are similarly recited in independent claim 8.

As noted above, with the present invention (as recited in independent claim 1), the content transmission device transmits each of the pieces of segmented data of the content to be received, in parallel, by the communication units at a transmission speed adjusted based on a

request signal.

Naruse in ¶[0052]-¶[0055] discloses that a mobile wireless terminal sends a requests for a corrected transmission speed of data to a transmission control unit of a server. The transmission control unit of the server determines a modulation system that is transmittable at the corrected transmission speed. Then, the transmission control unit transmits the transmission data from a base station to the mobile wireless terminal.

Naruse (i.e., ¶[0052]-¶[0055] ) merely discloses that content can be transmitted and received by a wireless mobile terminal at a corrected transmission speed. However, nothing in Naruse (i.e., ¶[0052]-¶[0055] ) discloses or suggests transmitting each of the pieces of segmented data of the content to be received, in parallel, by a plurality of communication units at a transmission speed adjusted based on a first request signal, as recited in independent claims 1 and 8.

Markman in ¶[0025], ¶[0041], ¶[0048] and ¶[0085] discloses a system for distributing media signals to subscribers that include one or more content sources linked to set top boxes by a broadband network. An EPG module displays programming information in various formats, such as a timeline, grid, or the like, allowing a subscriber to easily view upcoming or current programming. Additionally, a media center functions as a centralized reception and distribution center for media signals (e.g., TV signals) within a home, and bookmarks and/or other meta data may be associated with a single media program.

Markman (i.e., ¶[0025], ¶[0041], ¶[0048] and ¶[0085]), at best, discloses the use of set boxes that receive content from a media center at home. Similar to Naruse, however, nothing in Markman (i.e., ¶[0025], ¶[0041], ¶[0048] and ¶[0085]) discloses or suggests transmitting each of the pieces of segmented data of the content to be received, in parallel, by a plurality of communication units at a transmission speed adjusted based on a first request signal, as recited in independent claims 1 and 8.

Zhu in ¶[0021], ¶[0022] and ¶[0041] discloses the use of a segment ID that is generated by an ID generator and assigned to each of the data segments received. The IDs can be generated before the segments are sent to a segment redundancy check engine, sometime after the segments have been processed by the segment redundancy check engine, or when the segments are ready to be stored in a segment database. As described in Zhu (e.g., in ¶[0022], a segment data stream is sent to the segment redundancy check engine, which includes both the

segment data and the segment IDs. Additionally, as described in Zhu (e.g., ¶[0041]), an ID sequence is a highly compressed representation of an incoming data stream that can be uncompressed by retrieving each of the segments in the segment database that are identified by the ID's.

However, as noted above, Zhu (i.e., ¶[0021], ¶[0022] and ¶[0041]) still fails to disclose or suggest transmitting each of the pieces of segmented data of the content to be received, in parallel, by a plurality of communication units at a transmission speed adjusted based on a first request signal, as recited in independent claims 1 and 8.

Finally, Takamura in ¶[0038], ¶[0041] and ¶[0087] discloses a communication management unit that allows, in response to a request from application programs and in accordance with a communication management table, a communication control program for the cellular network and a communication control program for the wireless LAN to operate selectively to transmit and receive data.

Takamura (i.e., in ¶[0038], ¶[0041] and ¶[0087]) fails to disclose or suggest segmenting a piece of data for data transfer. Moreover, Takamura fails to disclose or suggest transmitting each of the pieces of segmented data of the content to be received, in parallel, by a plurality of communication units at a transmission speed adjusted based on a first request signal, as recited in independent claims 1 and 8.

That is, with the present invention (as recited in independent claims 1 and 8), content is segmented into pieces of data according to the performance of a communication unit and each of the segmented pieces of data are transmitted in parallel to the communication units. Thus, the content reproduction device and method of the present invention (as recited respectively in independent claims 1 and 8) is able to achieve streaming reproduction of the content even when the maximum transmission speed of one of the communication units is below the rate of the streaming content. No such features or advantages of the present invention (as recited in independent claims 1 and 8) are believed to be disclosed or suggested by the cited prior art.

Based on the above discussion, no combination of Naruse, Markman, Zhu and Takamura would not result in, or otherwise render obvious, the features of independent claims 1 and 8 (as amended). Likewise, no combination of Naruse, Markman, Zhu and Takamura would result in, or otherwise render obvious, the features of claims 5, 6, and 10 at least by virtue of their respective dependencies from independent claims 1 and 8.

In the Office Action, claims 2-4, 7, 9 and 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Naruse, Markman, Zhu and Takamura, and further in view of Ji (U.S. Publication No. 2005/0043999, hereafter “Ji”).

The Applicants have amended independent claims 7 and 9 to more clearly distinguish the present invention from the cited prior art. Independent claim 7 (as amended) recites *inter alia* the following features:

“[a] content transmission device that transmits a content over a communication path, ...  
wherein said content segmentation unit transmits each of the pieces of segmented data of the content to be received, in parallel, by the plurality of communication units at a transmission speed adjusted based on the first request signal, and the plurality of communication units receive, in parallel, each of the pieces of segmented data of the content transmitted from said content segmentation unit at the transmission speed adjusted by said content segmentation unit based on the first request signal.” (Emphasis added).

The features emphasized above in independent claim 7 are similarly recited in independent claim 9 (as amended). That is, independent claim 9 is a method claim that includes steps directed to the features emphasized above in independent claim 7. Independent claims 7 and 9 have been amended to include similar features to those of independent claim 1 (as amended). Therefore, the features emphasized above in independent claim 7 (and similarly recited in independent claim 9) are fully supported by the Applicants’ disclosure.

The present invention (as recited in independent claim 7) is distinguishable from the cited prior art in that the content transmission device transmits each of the pieces of segmented data of the content to be received, in parallel, by the communication units at a transmission speed adjusted based on a request signal so that the communication units receive, in parallel, each of the pieces of segmented data of the content transmitted from the content transmission device at the adjusted transmission speed. The features discussed above with reference to independent claim 7 are similarly recited in independent claim 9.

In the Office Action, the Examiner relies on the combination of Naruse, Markman, Zhu and Takamura, and further in view of Ji for disclosing or suggesting all the features recited in independent claims 7 and 9. However, the Examiner relies specifically on Naruse, Markman, Zhu and Takamura for disclosing or suggesting the features noted above with reference to independent claim 7 (and similarly recited in independent claim 9). In particular, with the regard

to the features emphasized above in independent claim 7 (and similarly recited in independent claim 9), the Examiner relies on ¶[0052]-¶[0055] of Naruse; ¶[0025], ¶[0041], ¶[0048] and ¶[0085] of Markman; ¶[0021], ¶[0022] and ¶[0041] of Zhu; and ¶[0038], ¶[0041] and ¶[0087] of Takamura.

As noted above, independent claims 7 and 9 have been amended similar to that of independent claim 1. Therefore, independent claims 7 and 9 are believed to be distinguished from Naruse, Markman, Zhu and Takamura for similar reasons noted above for independent claim 1. Moreover, Ji fails to overcome the deficiencies noted above in Naruse, Markman, Zhu and Takamura. Accordingly, no combination of Naruse, Markman, Zhu and Takamura with Ji would result in, or otherwise render obvious, independent claims 7 and 9 (as amended). Likewise, no combination of Naruse, Markman, Zhu and Takamura with Ji would result in, or otherwise render obvious, claim 11 at least by virtue of its dependency from independent claim 9.

With regard to claims 2-4, the claims depend from independent claim 1. As noted above, Naruse, Markman, Zhu and Takamura fail to disclose or suggest all the features recited in independent claim 1 (as amended). Moreover, Ji fails to overcome the deficiencies noted above in Naruse, Markman, Zhu and Takamura. Accordingly, no combination of Naruse, Markman, Zhu and Takamura with Ji would result in, or otherwise render obvious, claims 2-4 at least by virtue of their dependencies from independent claim 1.

In the Office Action, claims 12 and 14-17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Naruse, Markman, Takamura and Ji, and further in view of Uhlik (U.S. Publication No. 2007/0112948, hereafter “Uhlik”).

The Applicants have amended independent claim 12 to more clearly distinguish the present invention from the cited prior art. Independent claim 12 (as amended) recites *inter alia* the following features:

“[a] content reproduction device that performs streaming reproduction of a content, the device comprising:

a plurality of communication units configured to receive, in parallel, each of pieces of segmented data of a content transmitted from a content transmission device over a communication path, a part of the pieces of the segmented data of the content being received by one of said plurality of communication units and another part of the pieces of the segmented data

of the content being received by another one of said plurality of communication units...,

wherein the content transmission device transmits each of the pieces of segmented data of the content to be received, in parallel, by said plurality of communication units at a transmission speed adjusted based on the first request signal, and said plurality of communication units receive, in parallel, each of the pieces of segmented data of the content transmitted from the content transmission device at the transmission speed adjusted by the content transmission device based on the first request signal.” (Emphasis added).

Independent claim 12 has been amended to include similar features to those of independent claim 1 (as amended). Therefore, the features noted above in independent claim 12 are fully supported by the Applicants’ disclosure.

The present invention (as recited in independent claim 12) is distinguishable from the cited prior art in that the content transmission device transmits each of the pieces of segmented data of the content to be received, in parallel, by the communication units at a transmission speed adjusted based on a request signal so that the communication units receive, in parallel, each of the pieces of segmented data of the content transmitted from the content transmission device at the adjusted transmission speed.

In the Office Action, the Examiner relies on the combination of Naruse, Markman, Takamura, Ji and Uhlik for disclosing or suggesting all the features recited in independent claim 12. However, the Examiner relies specifically on Naruse, Markman and Takamura for disclosing or suggesting the features emphasized above with reference to independent claim 12. In particular, with the regard to the features emphasized above in independent claim 12, the Examiner relies on ¶[0052]-¶[0055] of Naruse; ¶[0025], ¶[0041], ¶[0048] and ¶[0085] of Markman; and ¶[0038], ¶[0041] and ¶[0087] of Takamura.

As noted above, independent claim 12 have been amended similar to that of independent claim 1. Therefore, independent claim 12 is believed to be distinguished from Naruse, Markman, and Takamura for similar reasons noted above for independent claim 1. Moreover, Ji and Uhlik fail to overcome the deficiencies noted above in Naruse, Markman and Takamura. Accordingly, no combination of Naruse, Markman, Takamura, Ji with Uhlik would result in, or otherwise render obvious, independent claim 12. Likewise, no combination of Naruse, Markman, Takamura, Ji with Uhlik would result in, or otherwise render obvious, claims 14-17 at least by virtue of their dependencies from independent claim 12.

In the Office Action, claim 13 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Naruse in view of Markman, Takamura, Ji and Uhlik, and further in view of Zhu.

Claim 13 depends from independent claim 12. As noted above, Naruse, Markman, Takamura, Ji and Uhlik fail to disclose or suggest all the features recited in independent claim 12. Moreover, Zhu fails to overcome the deficiencies noted above in Naruse, Markman, Takamura, Ji and Uhlik. Accordingly, no combination of Naruse, Markman, Takamura, Ji and Uhlik with Zhu would result in, or otherwise render obvious, claim 13 at least by virtue of its dependency from independent claim 12.

In light of the above, the Applicants submit that all the claims pending in the present application are patentable over the prior art of record. Accordingly, the Applicants respectfully request that the Examiner withdraw the rejections in the Office Action and pass the present application to issue. The Examiner is invited to contact the undersigned attorney by telephone to resolve any issues remaining in the application.

Respectfully submitted,

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